

CLAIMS

1. A cell of a plant, characterized by: at least two B. thuringiensis ICP genes stably inserted into the genome of said plant; each of said genes encoding a different non-competitively binding ICP for an insect species; whereby at least two different ICPs can be produced by said cell which do not bind competitively to the brush border membrane of the columnar midgut epithelial cell of said insect species.
2. The cell of claim 1 wherein at least one marker gene, encoding a protein or polypeptide which renders said cell easily distinguishable from cells which do not contain said protein or polypeptide, is in the same genetic locus as at least one of said ICP genes.
3. The cell of claim 1 or 2, wherein each of said ICP genes is under the control of a separate promoter capable of directing gene expression in said cell and is provided with a separate signal for 3' end formation and within a same transcriptional unit.
4. The cell of claim 2 or 3, in which said marker DNA is under the control of a separate promoter capable of directing gene expression in said plant cell and is provided with a signal for 3' end formation within a same transcriptional unit.
5. The cell of claim 1 or 2, wherein said ICP genes are within a same transcriptional unit and under the control of a single promoter.
6. The cell of claim 5, wherein said marker gene is fused with at least one of said ICP genes and is within said same transcriptional unit and under the control of said promoter.

7. The cell of claim 5 or 6, wherein a DNA fragment, encoding a protease-sensitive or -cleavable amino acid sequence, is in said same transcriptional unit as said ICP genes and intercalated in frame between said ICP genes.

8. The cell of claim 5 or 6, wherein said ICP genes are combined in a dicistronic unit comprising an intergenic DNA sequence which allows reinitiation of translation and is in said same transcriptional unit as said ICP genes and intercalated between said ICP genes.

9. The cell of anyone of claims 1 to 8, wherein said ICP genes are genes encoding insecticidal proteins having activity against Lepidoptera species and are particularly the following genes: bt2 and/or bt73 and/or bt4 and/or bt14 and/or bt15 and/or bt18.

10. The cell of any of claims 1 to 8, wherein said ICP genes are genes encoding insecticidal proteins having activity against a Coleoptera species and are particularly the following genes: bt13 and/or bt21 and/or bt22.

11. The cell of any of claims 2 to 10 wherein said marker DNA is: an herbicide resistance gene, particularly a sfr or sfrv gene; a gene encoding a modified target enzyme for a herbicide having a lower affinity for the herbicide, particularly a modified 5-EPSP as a target for glyphosate or a modified glutamine synthetase as a target for a GS inhibitor; or an antibiotic resistance gene, particularly NPTII.

12. The cell of any of claims 3 to 6, wherein said promoter is: a constitutive promoter, particularly a 35S promoter or a 35S3 promoter; a PNOS promoter; a POCs promoter; a wound-inducible

promoter, particularly a TR1' or TR2' promoter; a promoter which directs gene expression selectively in plant tissue having photosynthetic activity, particularly a SSU promoter; or a tissue-specific promoter, particularly a tuber-specific promoter, a stem-specific promoter or a seed-specific promoter.

13. A vector suitable for transforming a cell of a plant, particularly a plant capable of being infected with Agrobacterium, comprising said ICP genes of any of claims 1 to 12.

14. A process for producing a plant having improved insect resistance and having said ICP genes of anyone of claims 1 to 12 stably integrated into the nuclear genome of their cells, characterized by the non-biological steps of transforming a cell of said plant by introducing said ICP genes into the nuclear genome of said cell and regenerating said plant and reproduction material from said cell.

15. A plant cell culture, consisting of the plant cells of anyone of claims 1 to 12.

16. A plant, consisting of the plant cells of anyone of claims 1 to 12.

17. Brassica, tomato, potato, tobacco, cotton or lettuce consisting of the plant cells of anyone of claims 1 to 12, wherein said ICP genes comprise one of the following pairs of genes: bt2 and bt18 or bt73 and bt15 or bt2 and bt18 or bt2 and bt14 or bt2 and bt4 or bt15 and bt18 or bt14 and bt15 or bt4 and bt15 or bt13 and bt21 or bt21 and bt22 or bt13 and bt22.

18. The cell of anyone of claims 1-12, made by a process as described hereinabove.

19. A method for rendering a plant resistant to an insect species by transforming the plant with said ICP genes of anyone of claims 1-12.